

What Is Claimed Is:

1. A control circuit of a liquid crystal display device, comprising:

5 a display driving data generation section for generating display driving data corresponding to a combination of image data of a current frame and post driving status data of a previous frame, wherein

10 said display driving data generation section further comprises:

a conversion table for storing compensation data or compensation display driving data corresponding to a combination of significant bits of the image data of the current frame and of the post driving status data of the previous frame; and

15 an interpolation operation section for generating interpolation compensation data or interpolation compensation display driving data by performing an interpolation operation for the compensation data or the compensation display driving data which is read from said conversion table according to insignificant bits of said image data of the current frame and of the post driving status data of the previous frame,

20 said conversion table including a singular point conversion table used when the post driving status data of the previous frame is a first data, and an ordinary point conversion table used when the post driving status data of

the previous frame is other than said first data, and

said display driving data generation section selecting
either said singular point conversion table or said ordinary
point conversion table depending on whether the post driving
5 status data of the previous frame is the first data.

2. The control circuit of a liquid crystal display
device according to Claim 1, further comprising a frame
memory for storing said post driving status data, wherein a
10 flag for indicating whether said post driving status data is
the first data or not is stored in said frame memory, and
said singular point conversion table or said ordinary point
conversion table is selected according to said flag.

15 3. The control circuit of a liquid crystal display
device according to Claim 1, wherein
two adjacent compensation data or compensation display
driving data corresponding to the significant bits of the
image data of said current frame are read from said singular
20 point conversion table, and the interpolation operation is
performed for the read two data according to the
insignificant bits of said image data of the current frame;
and .

four adjacent compensation data or compensation display
25 driving data corresponding to the significant bits of said
post driving status data of the previous frame and of the
image data of the current frame respectively are read from

said ordinary point conversion table, and the interpolation operation is performed for the read four data according to the insignificant bits of said post driving status data of the previous frame and of the image data of the current frame.

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4. A control circuit of a liquid crystal display device, comprising:

a display driving data generation section for generating display driving data corresponding to a combination of image data of a current frame and post driving status data of a previous frame, wherein

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said display driving data generation section further comprises:

a conversion table for storing compensation data or compensation display driving data corresponding to a combination of the significant bits of the image data of the current frame and of the post driving status data of the previous frame; and

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an interpolation operation section for generating interpolation compensation data or interpolation compensation display driving data by performing an interpolation operation for compensation data or compensation display driving data which is read from said conversion table according to insignificant bits of said image data of the current frame and of said post driving status data of the previous frame,

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said interpolation operation section including a singular point interpolation operation unit used when the

post driving status data of the previous frame is a first data and an ordinary point interpolation operation unit used when the post driving status data of the previous frame is other than said first data, and

5 said display driving data generation section selecting either said singular point interpolation operation unit or said ordinary point interpolation operation unit depending on whether the post driving status data of the previous frame is the first data or not.

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5. The control circuit of a liquid crystal display device according to Claim 4, further comprising a frame memory for storing said post driving status data, wherein a flag for indicating whether said post driving status data is the first data or not is stored in said frame memory, and
15 said singular point interpolation operation unit or said ordinary point interpolation operation unit is selected according to said flag.

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6. The control circuit of a liquid crystal display device according to Claim 4, wherein said singular point interpolation operation unit performs a non-linear interpolation operation for said post driving status data of the previous frame, and said ordinary point interpolation
25 operation unit performs a linear interpolation operation for said post driving status data of the previous frame.

7. The control circuit of a liquid crystal display device according to Claim 4, wherein said conversion table further includes a singular point conversion table used when the post driving status data of the previous frame is a
5 second data, and an ordinary point conversion table used when the post driving status data of the previous frame is other than said second data, and said display driving data generation section selects either said singular point conversion table or said ordinary point conversion table
10 according to whether the post driving status data of the previous frame is the second data or not.

8. A control circuit of a liquid crystal display device, comprising:
15 a display driving data generation section for generating display driving data corresponding to a combination of image data of a current frame and post driving status data of a previous frame, wherein
said display driving data generation section further
20 comprises:
a conversion table for storing compensation data or compensation display driving data corresponding to a combination of the image data of the current frame and the post driving status data of the previous frame, said
25 conversion table including a first conversion table corresponding to a first frame frequency and a second conversion table corresponding to a second frame frequency;

and

an interpolation operation section for performing an interpolation operation which includes an extrapolation operation for compensation data or compensation display driving data which is read from said first or second conversion table according to the current frame frequency, to generate interpolation compensation data or interpolation compensation display driving data.

9. The control circuit of a liquid crystal display device according to Claim 8, further comprising a frame frequency detection section for detecting a current frame frequency.

10. A liquid crystal display device comprising:
a liquid crystal display panel; and
a control circuit of the liquid crystal panel, including a display driving data generation section for generating display driving data corresponding to a combination of image data of a current frame and post driving status data of a previous frame, wherein

said display driving data generation section further comprises:

a conversion table for storing compensation data or compensation display driving data corresponding to a combination of significant bits of the image data of the current frame and of the post driving status data of the

previous frame; and

an interpolation operation section for generating interpolation compensation data or interpolation compensation display driving data by performing an interpolation operation for the compensation data or the compensation display driving data which is read from said conversion table according to insignificant bits of said image data of the current frame and of the post driving status data of the previous frame,

said conversion table including a singular point conversion table used when the post driving status data of the previous frame is a first data, and an ordinary point conversion table used when the post driving status data of the previous frame is other than said first data, and

said display driving data generation section selecting either said singular point conversion table or said ordinary point conversion table depending on whether the post driving status data of the previous frame is the first data.

11. A liquid crystal display device comprising:

a liquid crystal display panel; and

a control circuit of the liquid crystal panel, including a display driving data generation section for generating display driving data corresponding to a combination of image data of a current frame and post driving status data of a previous frame, wherein

said display driving data generation section further

comprises:

5 a conversion table for storing compensation data or
compensation display driving data corresponding to a
combination of the significant bits of the image data of the
current frame and of the post driving status data of the
previous frame; and

10 an interpolation operation section for generating
interpolation compensation data or interpolation compensation
display driving data by performing an interpolation operation
for compensation data or compensation display driving data
which is read from said conversion table according to
insignificant bits of said image data of the current frame
and of said post driving status data of the previous frame,

15 said interpolation operation section including a
singular point interpolation operation unit used when the
post driving status data of the previous frame is a first
data and an ordinary point interpolation operation unit used
when the post driving status data of the previous frame is
other than said first data, and

20 said display driving data generation section
selecting either said singular point interpolation operation
unit or said ordinary point interpolation operation unit
depending on whether the post driving status data of the
previous frame is the first data or not.

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12. A liquid crystal display device comprising:
a liquid crystal display panel; and

a control circuit of the liquid crystal panel, including
a display driving data generation section for generating
display driving data corresponding to a combination of image
data of a current frame and post driving status data of a
5 previous frame, wherein

said display driving data generation section further
comprises:

a conversion table for storing compensation data or
compensation display driving data corresponding to a
10 combination of the image data of the current frame and the
post driving status data of the previous frame, said
conversion table including a first conversion table
corresponding to a first frame frequency and a second
conversion table corresponding to a second frame frequency;
15 and

an interpolation operation section for performing an
interpolation operation which includes an extrapolation
operation for compensation data or compensation display
driving data which is read from said first or second
20 conversion table according to the current frame frequency, to
generate interpolation compensation data or interpolation
compensation display driving data.